sis and *S. speciosa* differ most notably from *S. austromexicana* in their larger lanceolate leaves (6–12 cm long) having long apiculate to caudate-acuminate apices and short-pedicellate flowers disposed in congested racemes or subsessile fascicles.

Virtually nothing is known about the breeding system or pollination biology of *Symplocos* but the flowers of most species possess all the earmarks of entomophily and in some cases ornithophily. The flowers of *S. austromexicana* are homogamous and pollen release is accompanied by a slight inward bending of the free portions of the filaments to form a cluster of anthers crowning or closely adhering to the receptive stigma. Copious pollen deposition on stigmas was even noted on several unexpanded flowers examined in the field. Despite these observations, lack of information on compatibility relationships precludes a definitive statement on the breeding system at this time.

Acknowledgments

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THORNEA (HYPERICACEAE), A NEW GENUS FROM MEXICO AND GUATEMALA

Dennis E. Breedlove and Elizabeth McClintock
Department of Botany
California Academy of Sciences, San Francisco 94118

Several collections of two species originally placed in *Hypericum* were made by Breedlove during recent years in connection with his study of the flora of Chiapas. They are distinct enough to warrant generic status. We call the new genus *Thornea*.

Comparison of floral morphology of *Thornea* and *Triadenum* Rafin. (see Wood and Adams, 1976) indicates that they are related. We believe that *Thornea* is allied with *Triadenum* rather than with the large, variable, and widely distributed genus *Hypericum*.

Floral characters of *Thornea* and *Triadenum* show their strongest resemblance in arrangement of the stamens. Both genera have nine fertile stamens grouped in three fascicles of three each, alternating with three sterile staminodial fascicles (or fasciclodes, Robson, 1972). Petals of *Thornea* and *Triadenum* are light or dark pink and greenish-white with parallel striations. In both genera, the ovaries are 3-carpellate and develop into three nearly separate dehiscent capsules.

Thornea and *Triadenum* differ in habit: *Thornea* is a shrub whereas *Triadenum* is herbaceus. Other differences are seen in capsule and seed characters. Mature capsules of *Triadenum* have styles less than one-quarter the total length of the capsule, while in *Thornea* the styles are about one-half as long as the capsules. Seeds in both genera are oblong and small (about 1 mm long). They are more numerous in *Triadenum,* with more than ten per carpel, while in *Thornea* there are fewer than ten in each carpel. In *Thornea,* they are lightly reticulate with a minute appendage on one end or narrowly winged along one margin, while in *Triadenum* the reticulations are well developed and the seeds lack a wing or an appendage.

Thornea is a Neo-Tropical woody relative of the herbaceous temperate, widely disjunct genus *Triadenum* (Wood and Adams, 1976). Both genera, according to Robson (pers. comm.), show floral and seed similarities with the paleo-Tropical woody genus *Cratoxylum,* which suggest that the newly proposed genus should be placed with *Triadenum* in the *Cratoxyleae*.

Thornea Breedlove & McClintock, gen. nov. Frutex sempervirens, foliis oppositis punctatis; inflorescentia cymosa triflora; sepala 5; petala 5, rosea et alba; androecium 9 fertilibus staminibus, in 3 fasciculis 3 fertilibus staminibus alternantibus 3 sterilibus fasciculis ordinatum; capsula paucis seminibus; semina margine alata angusto, testa modice reticulata.

Evergreen shrubs, glabrous; leaves opposite, entire, punctate, especially on lower surface, chartaceous or subcoriaceous; inflorescences terminating lateral branches, cymose, 3-flowered; sepals 5, striate; petals 5, pink and white, oblong, striate, imbricate in bud, later more or less reflexed; androecium of 9 fertile stamens in 3 fascicles of 3 stamens each alternating with 3 sterile staminodial fascicles, anthers 2-celled, filaments gradually dilated toward base; gynoecium 3-carpellate, each carpel with 1 style; capsules dehiscing at maturity nearly to the base of the carpels, styles persistent, about ⅓ the length of each carpel; seeds few in each carpel, oblong, small, lightly reticulate to almost smooth, with a narrow wing along one margin or a terminal appendage.

Type species: *Thornea matudae* (Lundell) Breedlove & McClintock.

Genus named for Robert F. Thorne, eminent phylogenist and student of the Mexican flora, of Rancho Santa Ana Botanic Garden, Claremont, California, who with Dennis Breedlove made the first Mexican collection of *Thornea calcicola* in Chiapas in 1971.

The two species of *Thornea,* though restricted in their distribution to southern Chiapas and adjacent northern Guatemala, occur in different habitats.

They are distinguished from each other on the basis of the following key.

Densely branched, internodes short to 0.5 cm long; leaves subcoriaceous, 0.5–1.5 cm long, base of blade attenuate, scarcely auriculate; flowers dark rose-pink, petals 5 mm long; capsules to 5 mm long. *T. calcicola*
Openly branched, internodes longer, to 1.5 cm long; leaves chartaceous, 1.0–4.5 cm long, base of blades biauriculate; flowers pink and white, petals 7 mm long; capsules to 7 mm long. . . . . *T. matudae*

Thornea matudae (Lundell) Breedlove & McClintock, comb. nov. *Hypericum matudae* Lundell (as *H. matudai*), Bull. Torrey Bot. Club 69:394–395. 1942. Type: Mexico, Chiapas, Mt. Paxtal (Cerro Paxtla on Mexican maps), 27 Dec 1936, *Matuda 499*. Holotype: MICH.

Shrub about 2 m tall; leaf blades oval, 1.2–4.5 cm long; 0.6–2.0 cm wide, chartaceous, apex rounded, base cuneate, decurrent, biauriculate, auricles incurved, petioles 2–7 mm long, pedicels slender, 4–7 mm long; sepals ovate, 2–3 mm long, margins sparingly fimbriate; petals 6–7 mm long, pink and white; stamens 4–6 mm long; capsules 6–7 mm long; seeds 1 mm long, sparsely reticulate to almost smooth, narrowly winged along one side. Fig. 1.

Specimens examined (in addition to type): Mexico, Chiapas, Municipio of Siltepec, ridge above Siltepec on road to Huixtla, 2000–2400 m, *Breedlove 31990 and A. R. Smith.*

The collection from near Siltepec was a single shrub in the dense shaded understory of a well developed Montane Rain Forest on a steep north-facing slope. The substrate was formed of sedimentary shales and sandstone of late Paleozoic and early Mesozoic origin. The forest was 25–40 m tall with a single canopy and a dense, diverse understory. Canopy trees included *Cleyera theoides, Symplocos, Clethra, Matudea, Saurauia, Pinus chiapensis, Quercus* ssp., *Cyathea, Nectandra, Ocotea, Buddleia, Topobaea,* and *Perrottetia.*

The type collection (*Matuda 499*) was made some 25 km southwest of the above locality in the same geologic formation and the same section of the Sierra Madre called the Sierra de Soconusco. The type was a unicate, and although Matuda subsequently made some 10,000 collections in this general region, he apparently never encountered *Thornea matudae* again.

Thornea calcicola (Standley & Steyermark) Breedlove & McClintock, comb. nov. *Hypericum calcicola* Standley & Steyermark, Publ. Field Mus. Nat. Hist., Bot. Ser. 23:64–65. 1944. Type: Guatemala, Department of Huehuetenango, Sierra de los Cuchumatanes, 6 Aug 1942, *Steyermark 50160*. Holotype: F.

Shrub to 3 m tall, densely branched, numerous short lateral branches, internodes short, 2–5 mm long; leaves oblong to oval, obtuse at apex, acute to abruptly attenuate at base, reticulately veined beneath, subcoriaceous, 5–15 mm long, 2–6 mm wide, petioles 1–2 mm long; pedicels slender, to 5 mm long; sepals ovate, 2 mm long, pink, margins fimbriate; petals oblong, 5 mm long, rose red; stamens to 4 mm long; capsules 5 mm

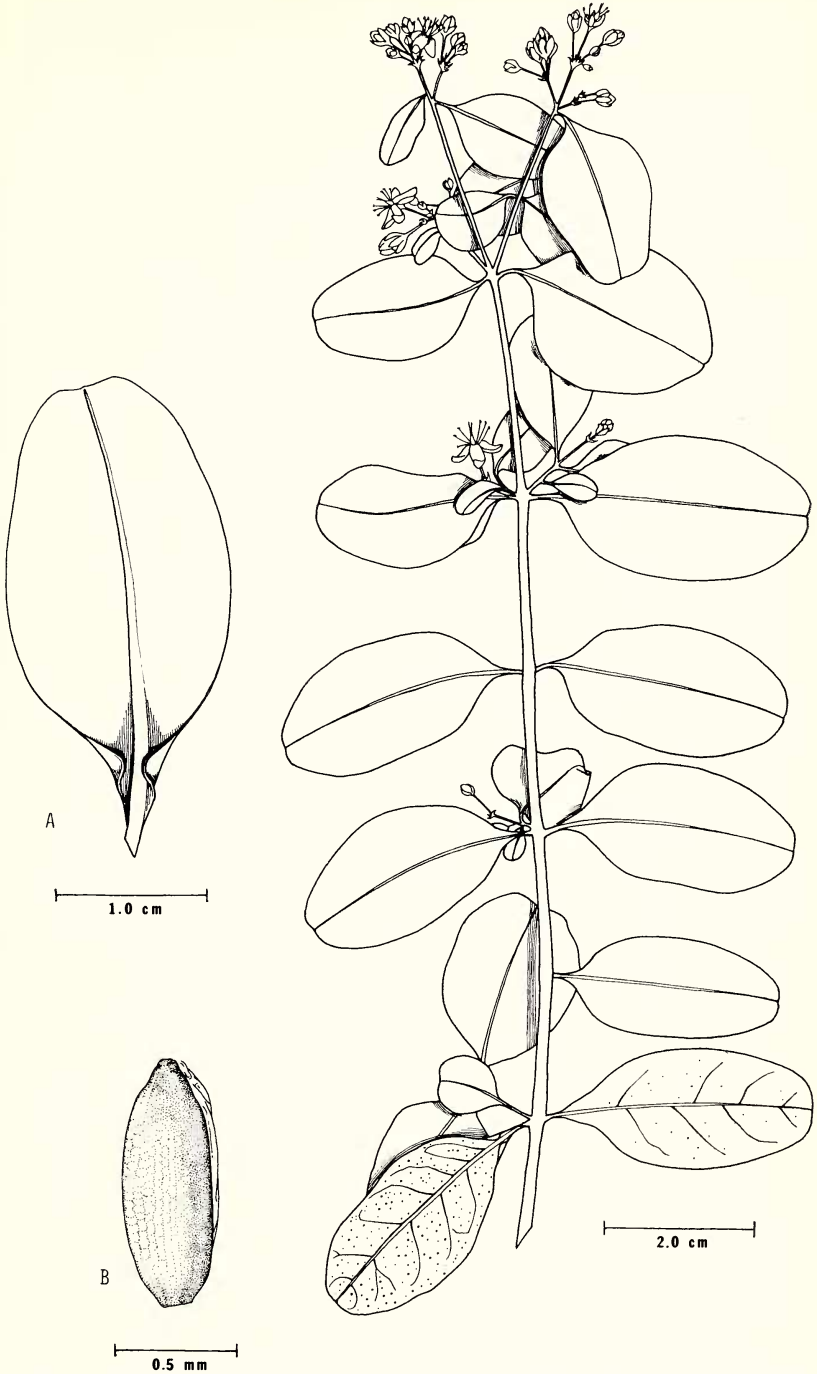

FIG. 1. *Thornea matudae*. A, leaf blade, biauriculate at base; B, seed. (*Breedlove 31990 and A. R. Smith,* DS).

FIG. 2. *Thornea calcicola*. A, flower; B, androecium; C, seed. (*Breedlove 27561,* DS).

long; seeds oblong, 1 mm long, lightly reticulate, with small terminal appendage at one end. Fig. 2.

Specimens examined (in addition to type): Guatemala, road to San Juan Ixcoy, Sierra de los Cuchumatanes, 3700 m, *Molina R., Burger, and Wallenta 16469,* F. Mexico, Chiapas, Municipio of La Trinitaria, Monte Bello National Park, 1300 m, 42 km northeast of La Trinitaria, *Breedlove 27561,* DS; same locality, *Breedlove 21104 and R. F. Thorne,* DS, *Breedlove 36937,* DS; slopes with Montane Rain Forest, *Liquidambar, Magnolia, Vochysia,* east of Laguna Tzikaw, *Breedlove 32254,* DS; Laguna Pojoj near Laguna Tsiskaw, *Breedlove 37070,* DS.

In Chiapas, *Thornea calcicola* is a locally abundant shrub often becoming sub-dominant. It occurs in a shrubby evergreen formation reminiscent of an "elfin forest", a modification of the Montane Rain Forest, which occurs on Miocene limestone slopes on the shores of many of the lakes in the Lagos de Monte Bello National Park in south-central Chiapas on the Guatemala border. Associated trees and shrubs include *Rondeletia stenosiphon, Podocarpus matudae, Cavendishia laurifolia, Saurauia scabrida, Lyonia squamulosa, Litsea, Hoffmannia, Daphnopsis, Tibouchina breedlovei, Monnina xalapense, Hauya heydeana, Zanthoxylon, Parathesis chiapensis, Polygala floribunda,* and *Miconia laurifolia.*

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A NEW SPECIES OF CHRYSACTINIA (COMPOSITAE: TAGETEAE) FROM SINALOA, MEXICO

David J. Keil
Department of Botany and Microbiology,
Arizona State University, Tempe 85281

Recent collections from the mountains of northern Sinaloa include a previously undescribed species of *Chrysactinia* A. Gray. As last revised (Blake, 1916), *Chrysactinia* comprised four species of eastern and central Mexico and the southwestern United States. The new species, *C. lehtoae,* is the first *Chrysactinia* known from western Mexico.